

Claims

What is claimed is:

- 5 1. Image recorder, in particular for recording objects or scenes in three dimensions, with a detector unit comprising a multiplicity of photosensitive pixel elements for generating signals containing information about individual image points, and
10 a signal output to which the signals of the pixel elements are fed for outputting the image information,

wherein

the pixel elements contributing to the image information are arranged irregularly, and/or their arrangement is adapted or is adaptable to the expected positions of characteristic image elements.

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2. Image recorder according to claim 1 wherein the pixel elements can be directly addressed.

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3. Image recorder according to claim 1 wherein the pixel elements can be sequentially or optionally addressed.

4. Image recorder according to claim 2 wherein the pixel elements contributing to the image information are arranged in a V-shape or cruciform shape.

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5. Image recorder according to claim 4 wherein the pixel elements may be programmed in order to activate or deactivate selected pixel elements.

6. Image recorder according to claim 5 wherein there are programmable elements for selecting pixel elements.
7. Image recorder according to claim 6 wherein there are switches for bridging pixels and/or for interrupting address lines.
8. Image recorder according to claim 7 wherein there are fusible electrical links for permanently activating or deactivating individual pixel elements.
9. Image recorder according to claim 8 wherein there is a line decoder and/or a column decoder for addressing the programmable elements.
10. Image recorder according to claim 9 wherein there is a shift register for reading out pixel elements contributing to the image information or selected pixel elements.
11. Image recorder according to claim 10 wherein there are photonic mixer devices for recording three-dimensional range images.
12. Image recorder according to claim 3 wherein the pixel elements contributing to the image information are arranged in a V-shape or cruciform shape.
13. Image recorder according to claim 12 wherein the pixel elements may be programmed in order to activate or deactivate selected pixel elements.
14. Image recorder according to claim 13 wherein there are programmable elements for selecting pixel elements.

15. Image recorder according to claim 14 wherein there are switches for bridging pixels and/or for interrupting address lines.
16. Image recorder according to claim 15 wherein there are fusible electrical links for permanently activating or deactivating individual pixel elements.
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17. Image recorder according to claim 16 wherein there is a line decoder and/or a column decoder for addressing the programmable elements.
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18. Image recorder according to claim 17 wherein there is a shift register for reading out pixel elements contributing to the image information or selected pixel elements.
19. Image recorder according to claim 18 wherein there are photonic mixer devices for recording three-dimensional range images.
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20. Image recording method, in particular for recording objects or scenes in three dimensions, in which signals containing information about individual image points are generated by means of photosensitive pixel elements, and the signals are then made available as image information,
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wherein
the signals made available correspond to image points, the arrangement of which is adapted to the expected positions of characteristic image elements, and/or which are arranged irregularly.
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21. Image recording method according to claim 20 wherein the pixel elements can be sequentially or optionally addressed.

22. Image recording method according to claim 20 wherein the sequence in which the pixel elements are addressed is selected according to the application.

5 23. Image recording method according to claim 20 wherein the pixel elements can be addressed by line jump or by meandering line-by-line.

10 24. Image recording method according to claim 20 wherein the pixel elements are programmed in order to activate and/or deactivate selected pixel elements.

15 25. image recording method according to claim 24 wherein the pixel elements are dynamically reprogrammed during the recording.